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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 20

Application Number: 09/663,030

Filing Date: September 15, 2000

Appellant(s): Thaddeus Schroeder, et al.

George J. Lyman

For Appellant

EXAMINER'S ANSWER

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This is in response to the appeal brief filed June 7, 2002.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellants' statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellants' statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellants' brief includes a statement that claims 1, 2 and 9, and claims 3-8, do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

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(8) *ClaimsAppealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

4,655,092	Taig	4-1987
5,398,194	Brosh et al.	3-1995
5,861,558	Buhl et al.	1-1999

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1, 2 and 9 stand finally rejected under 35 U.S.C. 102(b) as being anticipated by Taig.
Taig discloses a steering system having the structure as claimed. The system includes a shaft 16, a sensor (20 and 94), a controller 98, a slot 76 and a motor 104.
2. Claims 3-8 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Taig in view of Brosh et al. and further in view of Buhl et al.

As set forth above, Taig teaches substantially all that is claimed. Taig does not disclose the use of a Wheatstone bridge. Taig does disclose the use of a resistor strain gauge 94, but does not disclose whether it is a piezoresistor. Brosh, however, discloses a similar strain gauge sensor including piezoresistors arranged in a Wheatstone bridge. It would have been obvious to arrange the resistors of Taig in a Wheatstone bridge, as taught by Brosh since this is well known (see Brosh col. 2, line 50). It would have also been obvious to use piezoresistors, since Taig is silent regarding a preferred type of resistor and since Brosh discloses that these are desirable and are commercially available (see Brosh col. 2, lines 20-37).

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Taig also does not disclose whether the base of the piezoresistor is ceramic. Buhl, however, discloses the common use of a ceramic base for a piezoresistive sensor. It would have been obvious to use a ceramic base, as taught by Taig, since this is common in the art and since ceramic is readily available for this purpose.

(11) Response to Argument

Appellants allege “that the sensor 94 in Taig is neither *responding as a cantilever beam* as required by Claim 1, nor is it *positioned within and along the length of a slot which is parallel to the axis of a shaft* and located at a single peripheral location about the surface of the shaft, also as required by Claim 1” (brief, page 6).

The examiner does not agree with appellant’s position regarding the Taig reference. Initially, it is noted that during patent examination, the pending claims must be “given the broadest reasonable interpretation consistent with the specification.” Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). The court explained that “reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim,’ to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim.” The court found that applicant was advocating the latter, e.g., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would in interpreting claims in an infringement suit. Rather, the “PTO applies to verbiage of the

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proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification."). The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999).

Regarding the recitation that the sensor is "responsive as a cantilever beam to torque applied to the shaft" (claim 1), appellants point out that the sensor 94 of Taig is under torsion along axis 82 (brief, page 6). It is noted that the examiner considers the strain gauge 94, together with the torsion member 20, of Taig to comprise the "sensor" as claimed. The examiner agrees that the sensor of Taig is under torsion, however, these elements are also responsive as cantilever beams, when this recitation is given its broadest reasonable interpretation. For example, along *any longitudinal axis* of the strain gauge 94 and member 20, which is *parallel to, and laterally spaced from, the central axis 82*, the strain gauge 94 and member 20 are inherently responsive as cantilever beams when the torsion occurs. In other words, during torsion, the (short) ends of the torsion member 20, for example, will move in opposite "twisting" directions. This movement will cause the plate 20 to be responsive as a cantilever beam along any longitudinal axis, which is parallel to, and spaced from, the central axis 82.

Regarding the recitation that the sensor is "positioned within and along the length of the slot" (claim 1), appellants urge that Taig does not meet this limitation, apparently because the member 20 of Taig includes a "void area" between the ears (e.g. 72) which are located in a pair of slots (62, 64) (brief, page 5). The examiner does not agree that the sensor of Taig is not positioned within and along the length of the slot.

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The plate 20 of Taig is considered to be part of the sensor. Since the ears (e.g. 72 or 74), which are part of the plate 20, are clearly positioned in a slot (62 or 64), the sensor is considered to be "positioned within and along the length of the slot" as claimed, when this recitation is given its broadest reasonable interpretation.

The claim does not require that the sensor occupies the entire length of the slot.

Regarding the 35 U.S.C. 103 rejection, appellants' arguments are generally directed to Taig and, therefore, have been adequately addressed above.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



DANIEL G. DePUMPO
PRIMARY EXAMINER

dgd
June 27, 2002

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